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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/756,778 | 01/10/2001 | Arnaud Gueguen | 201587US2 | 6492 |

22850 7590 07/28/2005

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| EXAMINER |
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TORRES, JOSEPH D

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| ART UNIT | PAPER NUMBER |
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2133

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,778

Applicant(s)

GUEGUEN, ARNAUD

Examiner

Joseph D. Torres

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 8-11, 13-22, 24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-11, 13-22, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 07/11/2005. These drawings are accepted.

Specification

2. In view of the amendment filed 07/11/2005, the Examiner withdraws the objection to the specification.

Claim Objections

3. In view of the amendment filed 07/11/2005, the Examiner withdraws the objection to the claims.

Claim Rejections - 35 USC § 112

4. In view of the amendment filed 07/11/2005, the Examiner withdraws the 35 USC § 112 rejection to the claims.

Claim Rejections - 35 USC § 101

5. In view of the amendment filed 07/11/2005, the Examiner withdraws the 35 USC § 101 rejection to the claims.

Response to Arguments

6. Applicant's arguments filed 07/11/2005 have been fully considered but they are not persuasive.

The Applicant contends (with reference to Figure 4 in Hladik), "'Threshold Decision Device 112' simply determines whether an output decoded value is greater than $\frac{1}{2}$, less than $\frac{1}{2}$ or equal to $\frac{1}{2}$, to unambiguously indicate a decoded value of zero or one (as described at col. 5, lines 20-25)".

The Applicant clearly demonstrates that the 'Threshold Decision Device 112' in Hladik is a device for making a conditional decision about the soft-decoded output from decoder 110 to produce hard-decision conditional decoded output. The output of the 'Threshold Decision Device 112' is, as the Applicant points out, an indication of a decoding condition since it clearly indicates one of two conditions: whether the soft-decoded output from decoder 110 is greater than or equal $\frac{1}{2}$, or whether the soft-decoded output from decoder 110 is less than or equal $\frac{1}{2}$ (Note: zero indicates the soft-decoded output from decoder 110 is greater than or equal $\frac{1}{2}$ and one indicates the soft-decoded output from decoder 110 is less than or equal $\frac{1}{2}$); hence the output of the 'Threshold Decision Device 112' is a configuration parameter since the Applicant teaches in claim 1 that a decoding condition is a configuration parameter.

The Applicant contends, "theNote, for example the requirements of Claims 6 for 'the determined decoded characteristic statistical quantity' to be 'a mean of an absolute

value of extrinsic information determined from the set of extrinsic information items,' not the 'probability' argued at the bottom of page 11 as being the outcome of 'a discrete probabilistic system with exactly one outcome' that is not the subject matter claimed". The Examiner disagrees and asserts that one of ordinary skill in the art at the time the invention was made would have known that the decoded characteristic statistical quantity λ in Hladik is extrinsic information passed from constituent decoders to other constituent decoders (see Figure 25 of the previously provided Moher patent in the Office Action filed 04/15/2004, for example; Note: capital λ or Λ denotes the log version λ). The use of λ calculated from backward and forward metrics, α and β as taught in equation 7 in col. 8 of Hladik is one of the most fundamental aspects of turbo decoding.

The Examiner disagrees with the applicant and maintains all rejections of claims 1-4, 6, 8-11, 13-22, 24 and 25. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that claims 1-4, 6, 8-11, 13-22, 24 and 25 are not patentably distinct or non-obvious over the prior art of record in view of the references, Hladik; Stephen Michael et al. (US 5734962 A, hereafter referred to as Hladik) in view of Wicker (Stephen B. Wicker, Error Control Systems for Digital Communication and Storage, Prentice-Hall, 1995, pages 116-121) as applied in the last office action, filed 04/26/2005. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating

obviousness or nonobviousness.

7. Claims 1-4, 6, 8-11, 13-22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hladik; Stephen Michael et al. (US 5734962 A, hereafter referred to as Hladik) in view of Wicker (Stephen B. Wicker, Error Control Systems for Digital Communication and Storage, Prentice-Hall, 1995, pages 116-121).

See the Non-Final Action filed 04/26/2005 for detailed action of prior rejections.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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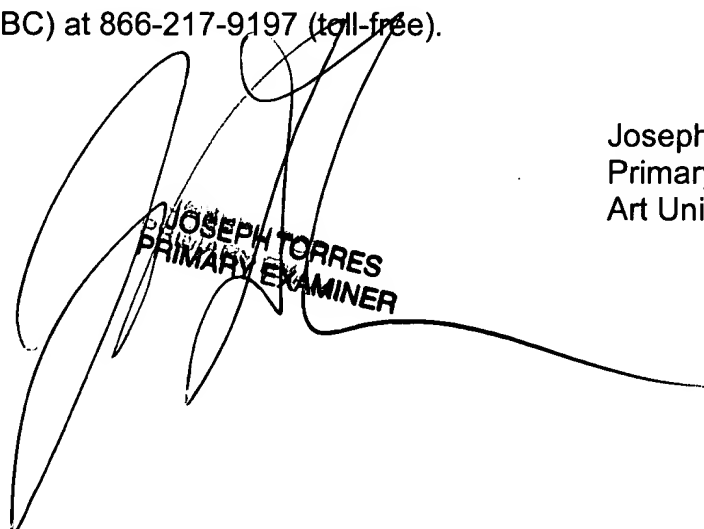
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A large, stylized handwritten signature in black ink, appearing to read 'J. D. Torres', is written over a rectangular stamp.

JOSEPH TORRES
PRIMARY EXAMINER

Joseph D. Torres, PhD
Primary Examiner
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